HI044
HLAR 12.5.1
7/21/09

Ravi Sanga/R10/USEPA/US
07/21/2009 04:03 PM

To Susan McGroddy <SusanM@windwardenv.com>

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bcc

Subject Re: Chinook compositing memo

Susie -- EPA has reviewed the Proposed juvenile Chinook salmon compositing scheme and has the following comments:

Stomach Content Samples

1) Since CAS or the analytical lab used to analyze the samples will probably freeze-dry the metals portion of the sample prior to analysis, the process will yield total solids data since the weight of the samples before and after the freeze-drying will be recorded. No extra sample mass is needed and total solids data will be available and can be recorded. Please change the memo to reflect this.

2) For PAHs, the analytical lab must modify their method to get their regular low-level reporting limits using 5 g of sample. If less than 5 g is used, the reporting limits will be proportionally higher. Since dietary TRVs have not yet been determined, the effect of higher reporting limits on these TRVs and usability of data cannot be determined. Please mention in a revised memo that if the reporting limits are higher than the dietary TRVs used for the Ecological Risk Assessment that the usability of the data will need to be discussed with EPA and EW stakeholders. Additionally please also note in the memo that alkylated PAHs are analyzed along with the regular PAHs, the difference is in the setup of the instrument and no additional sample mass is needed.

3) Sample weights after homogenization at the lab are often lower than those recorded in the field. Please add a rationale as to which analysis is the most important (metals/solids or PAHs). The lab aliquot for the most important analysis must be addressed first. PAH sample mass and reporting limits can also be balanced against the ability to analyze for metals if necessary.

4) Please add rationale regarding why chum samples could not be utilized to increase sample mass.

Whole Body Samples

1) More discussion between EPA and the EWG contract labs is needed regarding options for method

modifications with the labs for the yearling whole body sample in order to analyze PCB congener data and dioxins and furans. Section 3.1.1 of the J. Salmonid QAPP describe appropriate modifications for smaller sample size and these should be addressed in the memo. If tissue for congeners is not being analyzed, please add the appropriate rationale. If PAHs are not to be analyzed in the whole body samples, 70g of tissue is sufficient for the remaining analyses and PCB congeners and dioxins can probably be analyzed, perhaps using a slightly reduced sample mass.

2) Because they only have 66.33 gm of whole body tissue for yearling wild Chinooks, the memo states that insufficient mass exists to measure PCB congeners and dioxins/furans. Please explain why these analyses were considered the lowest priority over other analyte groups, particularly the PCB arochlor/pesticide group. Please explain if congeners are considered less important to the Eco-risk assessment than arochlors, and the rationale behind this decision. Lastly, please also clarify why congeners and the dioxin/furan analyte group is in the lowest priority for this composite.

3) Please explain whether PAHs will be analyzed in the whole body samples. The QAPP (Table 3-7) indicated that PAHs would be analyzed, but they are not included in the text or Table 5 of the compositing memo. The method for PAHs for the whole body samples may not be sensitive enough, as was found with the clams. If PAHs in whole body samples will be analyzed, options for method modifications here might include completing both the regular 8270 analysis and 8270-SIM using the same extract. Please add this information to the memo and discuss this further with EPA.

4) The analysis scheme does not appear to account for sample mass that would be used for pesticide analysis by GC/MS/MS if this is needed. The wild Chinook samples may not have enough material left over for this analysis when the rest of the analyses are completed, particularly if PAHs are to be analyzed. If there is a concern about PCB interference with pesticides, we may want to have CAS analyze the samples by GC/MS/MS directly, rather than analyzing them by method 8081 first. However, this approach will not save sample mass if the lab analyzes pesticides and PCBs sequentially using the same extract, rather than splitting the extract at some point in the sample preparation process.

5) Lipids can be analyzed using a fraction of an extract, e.g. for pesticides, and should not require a full 5 grams for a separate analysis. Total solids can also be completed using a smaller sample mass. This may be useful for the more mass-limited samples.

6) The memo also does not discuss where the individual fish comprising each composite come from. Please explain whether each composite contains fish from all sampling areas, or if each composite contains fish from only one distinct sampling area.

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Susan McGroddy Ravi, 07/16/2009 02:21:24 PM

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07/16/2009 02:21 PM

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Subject Chinook compositing memo

Ravi,

Here is a memo with the proposed compositing scheme for the juvenile Chinook salmon. We would like to get these samples started as soon as possible. (b) (6) . Please contact Matt Luxon (360-543-7882) next week if you have any questions or concerns regarding this memo.

Thanks.

Susie chinook compositing memo.doc